Five-Year Review Report

Second Five-Year Review Report
Addendum
for
Galen Myers Dump/Drum Salvage
Osceola
St. Joseph County, Indiana

PREPARED BY:

Indiana Department of Environmental Management

For

U.S. Environmental Protection Agency
Region 5

October 2007

Approved By: Date:

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10/9/07

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EXECUTIVE SUMMARY

The Second Five-Year Review for the Galen Myers Dump/Drum Salvage (Galen Myers) Superfund site was completed in September 2005. The Galen Myers site is located at 11303 Edison Road in St. Joseph County, Penn Township, Osceola, Indiana. A protectiveness statement of the remedy could not be made until further information was obtained. The 2005 Five-Year Review Report indicated that the remedy was functioning as intended by the decision documents with the exception of interruption of the Long Term Response Action (LTRA) groundwater monitoring. The review also indicated it would be appropriate to conduct a soil vapor screening and/or assessment to determine if a limited soil vapor investigation should be implemented; periodic monitoring of a private pond may be warranted; and an Institutional Control Plan should be developed.

The results of samples collected subsequent to the Second Five-Year Review indicate that the groundwater plume has not migrated beyond the Institutional Control (IC) area, and that the levels of contaminants are declining overall. It has been concluded that the remedy is functioning as intended by the decision documents and protects human health and the environment in the short-term. Long-term protectiveness will be ensured through continued groundwater monitoring to assess the movement and biodegradation of the Trichloroethene (TCE) plume, and through compliance with effective ICs. Compliance with effective ICs will be ensured through long-term stewardship by implementing, maintaining and monitoring ICs. An IC plan will be finalized to ensure long-term stewardship, and to confirm that the remedy continues to function as designed.

I. Five-Year Review Process

A second five-year review for the Galen Myers Dump/Drum Salvage (Galen Myers) Superfund site, located at 11303 Edison Road in St. Joseph County, Penn Township, Osceola, Indiana, was completed in September 2005. A protectiveness statement of the remedy could not be made until further information was obtained. The 2005 Five-Year Review Report indicated that the remedy was functioning as intended by the decision documents with the exception of interruption of the Long Term Response Action (LTRA) groundwater monitoring. The review also indicated it would be appropriate to conduct a soil vapor screening and/or assessment, and that limited monitoring of Penter's Pond may be warranted to confirm that it does not represent an exposure pathway of concern. These two potential exposure pathways are not identified in the September 29, 1995, Record of Decision (ROD) or the September 30, 1998, Explanation of Significant Differences (ESD). The review also indicated an Institutional Control (IC) Plan should be developed.

Items Reviewed

A. Institutional Controls:

i. Well Installation Ordinance

Institutional controls (ICs) are required to ensure the protectiveness of the remedy. Institutional controls are non-engineered instruments, such as administrative and/or legal controls, that help minimize the potential for exposure to contamination and protect the integrity of the remedy. Compliance with ICs is required to assure long-term protectiveness for any areas which do not allow for unlimited use or unrestricted exposure (UU/UE).

The IC in the ROD refers to preventing future human health exposure to contaminated groundwater by controlling installation of residential wells in the affected area. The St. Joseph County Health Department (SJCHD) *Well Drilling and Water Supply Systems Ordinance* became effective on January 1, 1999, and was revised on August 1, 2005. The ordinance prohibits the installation of a new or replacement potable water well within the municipality unless SJCHD receives a written notification from the appropriate municipal water system that they have no objection to the installation of the well (Section 24.20.140, Siting of Wells Where Municipal Water is Available). The ordinance gives SJCHD the authority to deny a permit application to install a potable water well where there is a known or potential groundwater contamination threat to public health and safety (Section 24.20.120, Siting Potable Water Wells).

Prior to construction of a water supply well, breaking the seal on an existing water supply well, or uncovering a buried upper terminal of a water supply well, the owner must apply for and obtain a written Water Supply Well Permit that is signed by the county's Health Officer. No water supply well can be used until it is

inspected and approved by the county's Health Officer. The ordinance does not allow a water supply well to be drilled in a SJCHD Administrative Control Area (ACA), except in certain limited circumstances. The SJCHD designated an Administrative Control Area (ACA) around the Galen Myers plume (see Figure 1), with a buffer area for safety, and agreed to enforce the SJCHD groundwater ordinance in this area. The September 8, 2006, SJCHD *Policy for Approving Water Wells in Buffer Areas of Administrative Control Areas* states, "IDEM will be provided with an opportunity to comment on any water supply wells proposed to be installed within the Administrative Control Areas." The policy also defines the conditions under which a well application for a water supply well in an ACA may be approved:

- New water supply wells will not be approved in zones of contamination and no variances shall be granted.
- New and replacement water supply wells may be approved in a buffer area, at the discretion of SJCHD when:

  - There is no municipal water supply available.
  - An appropriate sampling program is established to document water quality.
  - The drinking water is unlikely to be contaminated.
  - Approval is granted by the Environmental Health Manager.

ii. Other Institutional Controls:

Informational ICs were also provided to notify residents within the ACA who declined municipal water connections of the requirement to disclose sampling results and the recommendation for municipal water connections to prospective purchasers under Indiana's Responsible Property Transfer Law. This is discussed further in the Section C (Investigation of Declined Municipal Water Connections).

Potential use restrictions on the site property are discussed in the Section E (On-Site Issues).

Current Compliance: Initial IC evaluation activities have revealed that ICs have been implemented. Based on inspections and interviews, U.S. Environmental Protection Agency (U.S. EPA) is not aware of site or media uses which are inconsistent with the stated objectives of the ICs. The remedy appears to be functioning as intended.

Long-Term Stewardship: Long-term protectiveness at the site requires compliance with use restrictions to assure the remedy continues to function as intended. To assure proper maintenance and monitoring effective ICs, long-term stewardship procedures will be reviewed and an IC Plan will be developed. An IC Plan is currently being prepared by U.S. EPA and Indiana Department of Environmental Management (IDEM) which will describe procedures for inspection of the existing ICs at the Site and certification that the

ICs are in place and effective. Additionally, use of a communications plan should be explored for long term stewardship.

B. Monitoring

Groundwater Monitoring

The remedy selected in the ROD provided for residents to be connected to an alternate water supply, and to address contaminated groundwater via a long-term groundwater monitoring program. The groundwater cleanup goals established in the ROD were based on maximum contaminant levels (MCLs), which were the following when the ROD was finalized:

Trichloroethene (TCE)	- 5 micrograms per liter (μg/l)
1,1-dichloroethene	- 7 μg/l
cis-1,2-dichloroethene	- 70 μg/l
trans-1,2-dichloroethene	- 100 μg/l
1,1,2-trichloroethene	- 5 μg/l
1,2-dichloroethane	- 5 μg/l
1,2-dichlorethene	- 70 μg/l
vinyl chloride	- 2 μg/l

The long-term response action (LTRA) monitoring well sampling had been interrupted because of various administrative difficulties, including the status of IDEM's Cooperative Agreement (CA) with U.S. EPA and IDEM's contract for performing the sampling activities which had expired. To assist IDEM in assessing the current conditions at the Galen Myers site, U.S. EPA conducted a groundwater monitoring event during the week of August 29, 2005. However, the validated analytical results were not available for the Second Five-Year Review.

In July 2005, U.S. EPA approved a new CA grant application, which allowed IDEM staff to initiate contract negotiations for the LTRA activities. On August 3, 2006, IDEM executed a Supplement to the IDEM Master Agreement, ARN# 03-591-36 with Baker Environmental, Inc. (Baker), to conduct various LTRA work activities associated with the Galen Myers site. Groundwater and surface water samples were collected during the week of April 30, 2007.

Table 1 summarizes the TCE and breakdown contaminants analytical results. A review of the data indicates that contaminants continue to exceed the ROD groundwater cleanup levels, but overall, are decreasing as expected. In August 2005, TCE was detected above the ROD cleanup levels in three of thirty monitoring wells that were sampled. In April/May 2007, TCE was detected in six of thirty-one monitoring wells that were sampled. In most cases, TCE concentrations remain stable or are decreasing:

- Decreased significantly in MW-15.
- Decreased in monitoring well MW-03.

- Decreased slightly in monitoring wells MW-29 and MW-31.
- The estimated detections in MW-13, MW-14, MW-17, MW-25, MW-26, and MW-31 are less than the MCL.

Surface Water Monitoring

A residential landowner excavated a private 1 3/4 acre pond (known as Penter's Pond) within the groundwater plume pathway just south of the Galen Myers site after the Galen Myers ROD and ESD were finalized. Contaminated groundwater discharging into the pond could result in a new potential exposure pathway. Penter's Pond was sampled quarterly from June 2002 to June 2003 (see Table 2). The Indiana Department of Environmental Management conducted a site-specific risk assessment for the surface water and sediment and determined that the detected constituents were below risk levels for both human and ecological receptors. However, one of the follow-up actions identified in the Second Five-Year Review Report was to conduct additional sampling of Penter's Pond to confirm it does not represent an exposure pathway of concern. During the 2007 Annual Sampling Event, surface water samples were collected at Penter's Pond. Since there is no point source into the pond, sample locations were collected approximately 10 feet from the two sides of the pond: a) north side (SW-1 location is upgradient), and b) south side (SW-2 location is down gradient). The surface water sample SW-5S is a field duplicate of SW-1S. The results are provided on Table 3, and the locations are shown on Figure 2A.

Indiana Department of Environmental Management staff conducted a second site-specific risk assessment for the Penter's Pond surface water and determined that the contaminant concentrations in the pond (see Table 3) have not increased to a level of concern. The U.S. EPA review confirmed that the levels in the pond are not likely to cause adverse effects to ecological receptors screening values.

During the IDEM spring 2007 monitoring event, an initial surface water sampling of the St. Joseph River was conducted from the predicted upstream (SW-3) and downstream (SW-4) discharge locations of the Galen Myers groundwater plume to establish a baseline level of Volatile Organic Compounds (VOCs) contamination in the river (see Figure 2B). The St. Joseph River samples were collected at approximately six inches below the water surface. No VOCs were detected in the surface water collected from the river (see Table 3).

2007 Annual Sampling Event Conclusions

The results indicate the following:

- The plume has not expanded beyond the monitoring network and surface water locations.

- Source, upgradient, and sentry well locations continue to be non-detect.

- The plume continues to be limited to the shallow wells, with discharge to Penter's Pond.

- The plume has not expanded laterally or migrated significantly downgradient, based upon a comparison with previous sampling events and the 2007 St. Joseph River surface water samples.

- There has been a general decrease in the TCE concentrations and continued indications of natural attenuation of TCE with the presence and/or increase of the respective daughter products (cis-1,2-dichloroethene; trans-1,2-dichloroethene; and vinyl chloride).

C. Investigation of Declined Municipal Water Connections

In January 2002, IDEM sampled the 23 residences which declined a connection to a public water supply during the U.S. EPA Removal Action. On February 28, 2002, IDEM mailed each resident their sample results, with copies to SJCHD, Indiana State Department of Health, and U.S. EPA. In addition to the sampling results, the letters informed the residents that IDEM staff will not be conducting future sampling and monitoring of their wells. Of the 23 residences sampled, two showed high levels of TCE contamination (55660 Richwood Court and 55428 Barksdale Court). For those residences, IDEM's sample results letter strongly recommended that the residents immediately cease using their well water and seek an alternate supply such as a public water supply and provided information from the Agency for Toxic Substances and Disease Registry (ATSDR) on the health effects of TCE. The Indiana Department of Environmental Management also sent a letter dated February 28, 2002, to the twenty-one residences that showed no detectable levels of TCE. In the letter, IDEM advised residents that since their well is located in an area that could potentially become contaminated by the TCE plume migrating from the Galen Myers Dump/Drum Salvage Superfund site, for their own protection, they should connect to a city water supply or have their well water regularly tested by a private lab for TCE. The letters sent to the 23 residences who declined municipal water connections also advised them that they are required to disclose the February 28, 2002, IDEM letter to prospective purchasers under Indiana's Responsible Property Transfer Law (IC 13-25-3) and/or the Residential Real Estate Sales Disclosure Law (IC 24-4.6-2). There are no plans by IDEM or U.S. EPA for further sampling or remedial measures associated with the residences that previously declined connection to the alternate water supply.

A new well was installed in May 2001 at 55660 Richwood Court. On March 26, 2003, an agreement was signed between the same property owner and SJCHD that called for the resident to connect to municipal water and abandon the existing well. The residence was connected to municipal water on June 6, 2004, and the residential well was abandoned on February 3, 2005. The Indiana Department of Environmental Management will work with SJCHD to confirm that the 55428 Barksdale Court residents are using and maintaining a filtration system, or else seek resolution under SJCHD Ordinance.

D. U.S. EPA Soil Vapor Investigation Results

In early May 2006, U.S. EPA conducted a soil vapor investigation to determine if vapor-phase TCE and its degradation products are present below and within a residential structure located downgradient of the former Galen Myers property and near monitoring well MW-15, which contained the highest detected volatile organic compound (VOC) concentrations during the 2005 groundwater sampling event. The U.S. EPA contractor, Tetra Tech EM, Inc., installed two sub-slab vapor probes and collected sub-slab, indoor, and outdoor air samples. On September 29, 2006, U.S. EPA provided the sample results to the residents. Trichloroethene and tetrachloroethene (PCE) were detected at low levels, near or below the chemicals reporting limit (see Table 4). Some additional chemicals were detected, but they are not believed to be site-related and are not considered chemicals of concern at the Galen Myers site. The federal ATSDR and SJCHD officials reviewed the sampling data and determined that the chemicals detected do not pose a health risk. The August 3, 2006, Letter Report prepared by Tetra Tech EM, Inc., provides a summary of the site background, activities, and analytical results from this vapor intrusion study. The U.S. EPA is interested in sampling the residence again sometime during a fall or winter season in order to confirm the sampling results, and to assess whether weather conditions would affect the results.

E. On-Site Issues

Based on soil sampling results collected during 1998, IDEM and U.S. EPA concluded that further site property soil excavation was not required since the levels of contamination were below the soil clean-up goal of 0.11 mg/kg TCE. An ESD finalized in 1998 described this modification to the ROD. No contaminants of concern above an unacceptable risk level remain in the site property soils.

While deed restrictions were not required in the ROD or ESD, the former owner of the property signed an access agreement allowing U.S. EPA and IDEM and their agents and employees access to 11303 Edison Road (see Exhibit 1 attached to the enclosed July 21, 1997, *Consent for Access and Environmental Response*). This access agreement enabled the agencies to perform response actions deemed necessary for the Galen Myers Superfund site and includes an agreement by the then current owner to record deed restrictions on the use of the property. The restrictions specified in the access agreement included: preventing any groundwater development at the site property; preventing excavation of the top three to five feet of soil; ensuring utilities, builders, developers, etc. are aware of the site contamination conditions; and accepting responsibility of protecting monitoring wells located on his property. In August of 2005, a new owner purchased the property, and has continued to provide the agencies with access.

Although the restrictions were not required in the ROD or ESD, it is anticipated that the IC Plan activities will include an assessment of the need for these restrictions, and if

necessary title work to verify ownership of the Site and the recording of these restrictions, as well as planning for long-term Site stewardship to assure proper maintenance and monitoring of effective restrictions to ensure that the remedy remains effective.

II. Recommendations and Follow-Up Actions

Five Year Review Issue	Recommendations and Follow-up Actions	Party Responsible	Oversight Agency	Milestone Date	Affects Protectiveness (Y/N)
Institutional Controls – A complete review of the institutional controls should be performed at the Site to assure that the remedy continues to function as intended with regard to the ICs; Long-term stewardship needs to be assured for the Site.	An Institutional Control Plan will be prepared documenting necessary IC evaluation activities and necessary corrective measures, if needed. The IC plan is necessary to evaluate effectiveness of the existing ICs and plan for long-term stewardship to ensure long-term protectiveness of the remedy.	IDEM	U.S. EPA	December, 2008	Current: No Future: Yes

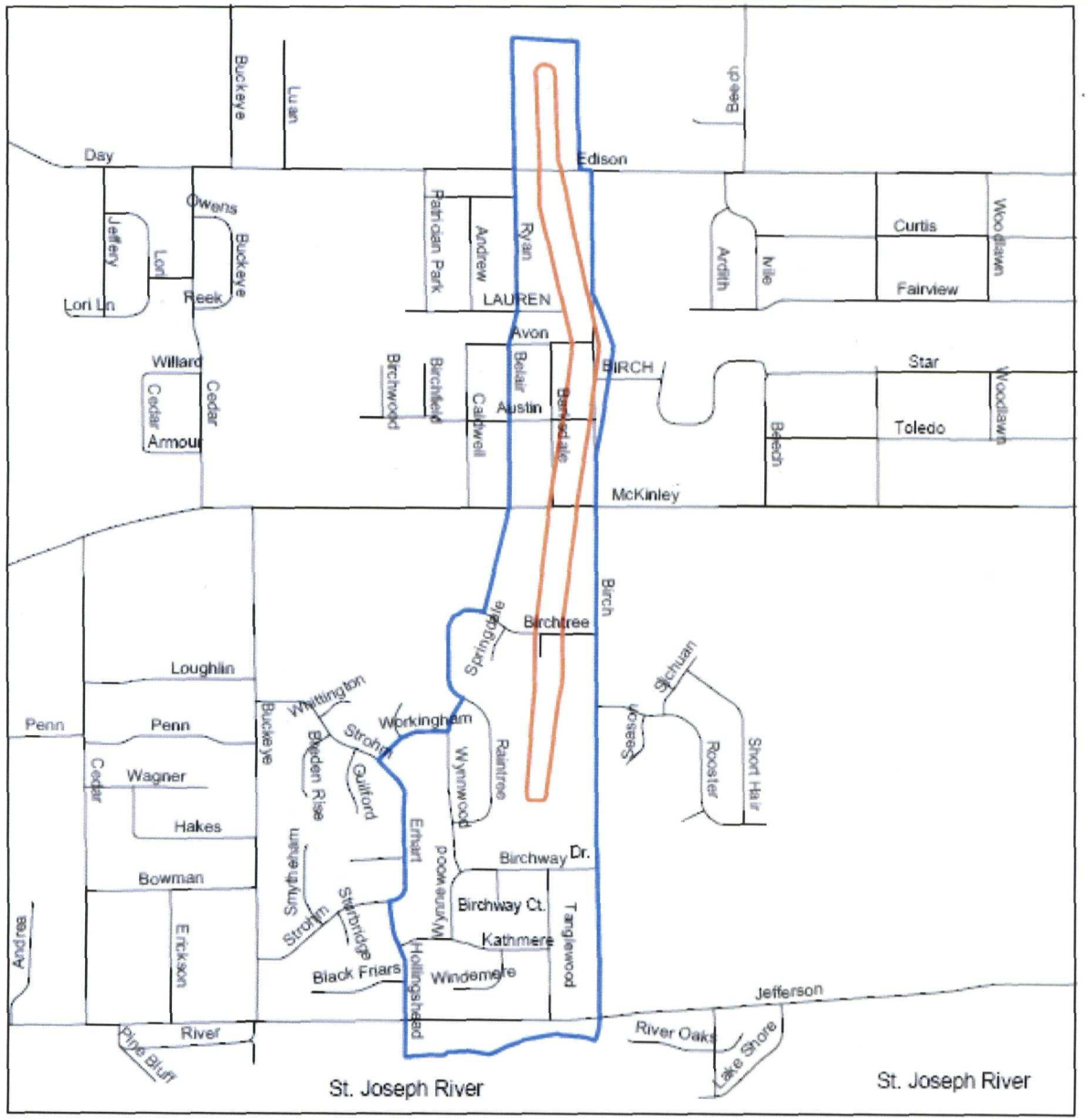
III. Protectiveness Statement

The results of samples collected subsequent to the Second Five-Year Review Report indicate that the groundwater plume has not migrated beyond the IC area, and that the levels of contaminants are declining overall. It has been concluded that the remedy is functioning as intended by the decision documents and protects human health and the environment in the short-term. Long-term protectiveness will be ensured through continued groundwater monitoring to assess the movement and biodegradation of the TCE plume, and through compliance with effective ICs. Compliance with effective ICs will be ensured through long-term stewardship by implementing, maintaining and monitoring ICs. An IC plan will be finalized to ensure long-term stewardship, and to confirm that the remedy continues to function as designed.

IV. Next Review

The next Five-Year Review should be conducted by September 2010.

Second Five-Year Review Report Addendum
Figure 1



Galen-Myers Site

Tuesday, January 31, 2006 12:15:24 PM
N:\Users\Shared\ENVIRONMENTAL\GIS_Program\Projects\ContaminationSiteMapping\CSM_Maps\IndividualSites\GalenMyers.mxd

Prepared By:

St. Joseph County
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N
W E
S

Legend

Contamination Area
(as of August 2005)
Admin Control Area

0 0.1 0.2 0.4 Miles

Figure 3A - North Section
TCE Results
Galen Myers Dump & Drum Salvage Site, Osceola, IN

Baker

Change in TCE Sample Results from 2005 to 2007

- Decrease
- Increase
- No change

MW-032 — Well number
2005 - ND — 2005 sample result (ppb)
2007 - ND — 2007 sample result (ppb)
Well location

Surface water sample, 2007 only

0 200 400 600 800 1,000 ft

Map scale - 1:4,000. Map created July 2007 by Michael Baker Jr., Inc.

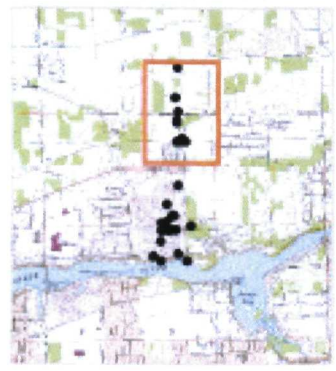

Figure 3B - South Section
TCE Results
Galen Myers Dump & Drum Salvage Site, Osceola, IN

Baker

Change in TCE Sample Results from 2005 to 2007

- Decrease
- Increase
- No change

MW-032 / 2005 - ND / 2007 - ND

- Well number
- 2005 sample result (ppb)
- 2007 sample result (ppb)
- Well location
- Surface water sample, 2007 only

0 200 400 600 800 1,000 ft

Map scale - 1:4,000. Map created July 2007 by Michael Baker Jr., Inc.

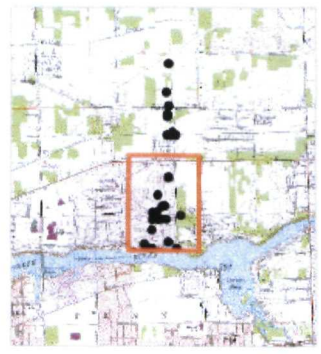

TABLE 1
Second Five-Year Review Report Addendum

Monitoring Well	**Trichloroethylene** ug/l - Maximum Contaminant Level (MCL) 5 ug/l						
	5/1994	10/1994	12/2001	6/2002	12/2002	8/2005	4/2007
MW-01	1 U[1]	10 U	5 U	NS[2]	5 U	10 U	1 U
MW-02	1 U	10 U	5 U	NS	5 U	10 U	1 U
MW-03	**190**	**73**	**67**	NS	**51**	**22**	**5.8**
MW-04	1 U	10 U	5 U	NS	5 U	10 U	1 U
MW-05	1 U	10 U	5 U	NS	5 U	10 U	1 U
MW-06	1 U	10 U	5 U	NS	5 U	10 U	1 U
MW-07	1 U	10 U	5 U	NS	**1.6**	10 U	1 U
MW-08	1 U	10 U	5 U	NS	5 U	10 U	1 U
MW-09	**1000**	**610 D**	**28**	NS	**160**	well was dry	**28**
MW-10	1 U	10 U	NS - Well Destroyed				
MW-11	1 U	10 U	NS - Well Destroyed				
MW-12	1 U	10 U	5 U	NS	5 U	10 U	1 U
MW-13	1 U	10 U	5 U	NS	5 U	**1 J**[3]	**0.95J**
MW-14	1 U	10 U	5 U	NS	5 U	**1 J**	1 U
MW-15	**4800**	**4300**	**1900**	NS	**1200**	**650**	**380**
MW-16	1 U	10 U	5 U	NS	5 U	10 U	1 U
MW-17	1 U	10 U	5 U	NS	5 U	**1 J**	1 U
MW-18	1 U	10 U	5 U	NS	NS - Well Damaged		
MW-19	1 U	10 U	5 U	NS	5 U	10 U	1 U
MW-20	1 U	10 U	NS - Well buried during construction of Penter's Pond				
MW-21	1 U	10 U	NS - Well buried during construction of Penter's Pond				
MW-22	Installed 07/16/1998		5 U	5 U	5 U	10 U	1 U
MW-23	Installed 07/15/1998		5 U	5 U	5 U	10U	1 U
MW-24	Installed 07/16/1998		5 U	5 U	5 U	10 U	1 U
MW-25	Installed 11/29/2001		5 U	5 U	5 U	1 J	1 U
MW-26	Installed 11/29/2001		5 U	5 U	5 U	2 J	**5.1**
MW-27	Installed 11/26/2001		5 U	5 U	5 U	10U	1 U
MW-28	Installed 11/26/2001		5 U	5 U	5 U	1 J	1.4
MW-29	Installed 11/26/2001		**28**	**32**	**40**	**30**	**24**
MW-30	Installed 11/26/2001		5 U	5 U	5 U	10 U	1 U
MW-31	Installed 11/26/2001		**32**	**38**	**42**	4 J	**34**
MW-32	Installed 05/22/2002			5 U	5 U	10 U	1 U
MW-33	Installed 11/26/2001			5 U	5 U	10 U	1 U
MW-34	Installed 05/22/2002			5 U	5 U	10 U	1 U
MW-35	Installed 05/22/2002			5 U	5 U	10 U	1 U
MW-36	Installed 05/22/2002			5 U	5 U	10 U	1 U

Exceeds ROD cleanup goal.

[1] U: Analyte is not detected at or above the method reporting limit.

[2] NS: Not Sampled.

[3] J: Result is less than the reporting limit, but greater than or equal to the method detection limit.

[4] ND: Not Detected (detection limits for historical data was not provided).

Asterisk (*) after number indicates result is from duplicate sample.

Monitoring Well	**Cis-1,2-Dichlorethene** - MCL 70 µg/l				
	12/2001	6/2002	12/2002	8/2005	4/2007
MW-3	5 U	NS	1 U	2	7.4
MW-9	5 U	NS	2.4	well was dry	1 U
MW-15	13	NS	19	14*	11J
MW-26	ND[4]	ND	ND	10 U	1.5
MW-28	ND	ND	ND	10 U	0.21J
MW-29	ND	ND	ND	10 U	2.8
MW-31	1 U	4	3.3	2	3
MW-33	NS	1.1	1.6	13	29

Monitoring Well	**Trans-1,2- Dichlorethene** - MCL 100 µg/l				
	12/2001	6/2002	12/2002	8/2005	4/2007
MW-3	ND[4]	NS	ND	10 U	0.44J
MW-31	ND	ND	ND	10 U	0.23J
MW-33	ND	ND	ND	10 U	0.49J

Monitoring Well	**Vinyl Chloride** - MCL 2 µg/l				
	12/2001	6/2002	12/2002	8/2005	4/2007
MW-15	ND	NS	2	10 U	12 U
MW-31	ND	1.4	ND	10 U	0.35J
MW-33	NS	1.2	ND	1 J[3]	0.81J

Monitoring Well	**1,1,1-Trichloroethane** - MCL 200 µg/l				
	12/2001	6/2002	12/2002	8/2005	4/2007
MW-9	5 U	NS	9.4	well was dry	1.4
MW-15	11	NS	8.3	3J	12 U
MW-31	1 U	1.3	1 U	10 U	0.40J

Exceeds ROD cleanup goal.

[1] U: Analyte is not detected at or above the method reporting limit.

[2] NS: Not Sampled.

[3] J: Result is less than the reporting limit, but greater than or equal to the method detection limit.

[4] ND: Not Detected (detection limits for historical data was not provided).

Asterisk (*) after number indicates result is from duplicate sample.

TABLE 2
Second Five-Year Review Report Addendum

TABLE 5-6 A
Galen-Myers Superfund Site
Osceola, Indiana
Penter's Pond Quarterly Surface Water Sample Results

Date Prepared: 12/10/03

Constituent	Action Level (1)	Location #1 Shallow Northeast Corner of Penter's Pond				Location #1 Medium Northeast Corner of Penter's Pond				Location #1 Deep Northeast Corner of Penter's Pond			
		Round 1 GW1 0' -1' 6/6/2002	Round 2 Number 1 0' - 0.5' 11/27/2002	Round 3 Number 1 0' - 1' 3/21/2003	Round 4 Number 1 0' - 0.5' 6/23/2003	Round 1 GW1 4' - 4.5' 6/6/2002	Round 2 Number 1 3.5' - 4.5' 11/27/2002	Round 3 Number 1 1.5' - 2' 3/21/2003	Round 4 Number 1 2.5' - 3' 6/23/2003	Round 1 GW1 8.5' -9' 6/6/2002	Round 2 Number 1 8.5' - 8' 11/27/2002	Round 3 Number 1 2.5' 3' 3/21/2003	Round 4 Number 1 4' - 5.5' 6/23/2003
Volatile Organic Compounds (ug/L)													
Cis-1,2-Dichloroethene	70	4	5.4	8.7	4.8	3.9	5.3	8.6	5	24	5	8.9	8.1
Trichloroethene	81	4	5.8	9	5.1	3.9	5.6	8.9	5.5	26	5.2	8.7	6.7
Vinyl chloride	525	<1	3.2	4.6	1.4	<1	3.4	4.6	1.6	3	3	4.6	3
Methylene Chloride	5	<1		<1	<1	<1		<1	<1	<1		<1	<1

Constituent	Action Level (1)	Location #2 Shallow Northwest Corner of Penter's Pond				Location #2 Medium Northwest Corner of Penter's Pond				Location #2 Deep Northwest Corner of Penter's Pond			
		Round 1 GW2 0' -1' 6/6/2002	Round 2 Number 2 0' - 0.5' 11/27/2002	Round 3 Number 2 0' - 1' 3/21/2003	Round 4 Number 2 0' - 0.5' 6/23/2003	Round 1 GW2 4' - 5' 6/6/2002	Round 2 Number 2 2.5' - 3' 11/27/2002	Round 3 Number 2 2.5' - 3' 3/21/2003	Round 4 Number 2 2' - 3' 6/23/2003	Round 1 GW2 8.5' -9' 6/6/2002	Round 2 Number 2 5.5' - 6' 11/27/2002	Round 3 Number 2 3.5' - 4' 3/21/2003	Round 4 Number 2 3' - 4' 6/23/2003
Volatile Organic Compounds (ug/L)													
Cis-1,2-Dichloroethene	70	3.6	4.7	9.4	3.9	3.6	5.3	9.2	4.7	15	5.3	11	5.3
Trichloroethene	81	3.7	5	9.4	3.8	3.9	5.4	9.2	5.6	5.6	5.2	9.9	6.6
Vinyl chloride	525	<1	3	4.9	1.1	<1	3.1	5	1.4	8.4	3	6.8	1.7
Methylene Chloride	5	<1		<1	<1	<1		<1	<1	<1		<1	<1

Constituent	Action Level (1)	Location #3 Shallow Southeast Corner of Penter's Pond				Location #3 Medium Southeast Corner of Penter's Pond				Location #3 Deep Southeast Corner of Penter's Pond			
		Round 1 GW3 0' -1' 6/6/2002	Round 2 Number 3 0' - 0.5' 11/27/2002	Round 3 Number 3 0' - 1' 3/21/2003	Round 4 Number 3 0.5' - 1' 6/23/2003	Round 1 GW3 3.5' - 4' 6/6/2002	Round 2 Number 3 1' - 1.5' 11/27/2002	Round 3 Number 3 2.5' - 3' 3/21/2003	Round 4 Number 3 2.5' - 3' 6/23/2003	Round 1 GW3 7.5' - 8' 6/6/2002	Round 2 Number 3 2.5' - 3' 11/27/2002	Round 3 Number 3 3.5' - 4' 3/21/2003	Round 4 Number 3 4.5' - 5' 6/23/2003
Volatile Organic Compounds (ug/L)													
Cis-1,2-Dichloroethene	70	3.8	4.3	8.8	5	3.9	4	8.9	7	36	4.5	9.4	29
Trichloroethene	81	4	4.5	8.9	5.4	3.9	4.3	9.1	6.4	13	4.3	9.3	2.2
Vinyl chloride	525	<1	2.2	4.9	1.5	<1	2.4	4.8	2.4	20	2.6	4.8	23
Methylene Chloride	5	<1		<1	<1	<1		<1	<1	<1		<1	<1

NOTES: NA = Not Applicable
ug/L = micrograms per liter
Blank field indicates result was below detection limit
(1) USEPA's surface water criteria (National Recommended Water Quality Criteria-Correction EPA 822-Z-99-001, April 1999) were the basis for a surface water cleanup goals of 81 ppb for TCE, 525 ppb for vinyl chloride and the MCL of 70 ppb for cis-1,2,-dichloroethene

TABLE 2
Second Five-Year Review Report Addendum

TABLE 5-6 A
Galen-Myers Superfund Site
Osceola, Indiana
Penter's Pond Quarterly Surface Water Sample Results

Date Prepared: 12/10/03

Constituent	Action Level (1)	Location #4 Shallow Southwest Corner of Penter's Pond				Location #4 Medium Southwest Corner of Penter's Pond				Location #4 Deep Southwest Corner of Penter's Pond			
		Round 1 GW4 0.5' -1' 6/6/2002	Round 2 Number 4 0' - 0.5' 11/27/2002	Round 3 Number 4 0' - 0.5' 3/21/2003	Round 4 Number 4 0.5' - 1' 6/23/2003	Round 1 GW4 3' - 3.5' 6/6/2002	Round 2 Number 4 3.5' - 4.5' 11/27/2002	Round 3 Number 4 1.5' - 2' 3/21/2003	Round 4 Number 4 2' - 3' 6/23/2003	Round 1 GW4 6.5' - 7' 6/6/2002	Round 2 Number 4 8.5' - 8' 11/27/2002	Round 3 Number 4 2' - 2.5' 3/21/2003	Round 4 Number 4 3.5' - 4' 6/23/2003
Volatile Organic Compounds (ug/L)													
Cis-1,2-Dichloroethene	70	3.5	4.6	8.8	6	3.6	4.4	9.1	7	3.7	4.5	9.2	26
Trichloroethene	81	3.3	5.2	8.8	4.6	3.4	5.2	8.8	4.9	3.8	4.4	8.8	4.9
Vinyl chloride	525	<1	3.2	4.8	2.2	<1	2.7	4.9	2.6	<1	2.4	5.1	9.6
Methylene chloride	5	<1		<1	<1	<1		<1	<1	<1		<1	<1

Constituent	Action Level (1)	Location #5 Shallow Expansion of Penter's Pond				Location #5 Medium Expansion of Penter's Pond				Location #5 Deep Expansion of Penter's Pond			
		Round 1 GW5 0' -1' 6/6/2002	Round 2 Number 5 0' - 0.5' 11/27/2002	Round 3 Number 5 0' - 0.5' 3/21/2003	Round 4 Number 5 0.5' - 1' 6/23/2003	Round 1 GW5 3.5' - 4' 6/6/2002	Round 2 Number 5 2.5' - 3' 11/27/2002	Round 3 Number 5 1.5' - 2' 3/21/2003	Round 4 Number 5 2' - 3' 6/23/2003	Round 1 GW5 8' - 8.5' 6/6/2002	Round 2 Number 5 5.5' - 6' 11/27/2002	Round 3 Number 5 2.5' - 3' 3/21/2003	Round 4 Number 5 3' - 4' 6/23/2003
Volatile Organic Compounds (ug/L)													
Cis-1,2-Dichloroethene	70	3.2	1.5	6.6	3	3.2	1.5	6.6	3.2	3.6	2	6.6	4.5
Trichloroethene	81	3.1	1.8	6.7	1.9	3.3	1.7	6.9	2	<1	2.1	6.9	2.3
Vinyl chloride	525	<1	<1	2.9	<1	<1	<1	3	<1	<1	1.3	2.9	1.2
Methylene Chloride	5	<1		<1	<1	<1		<1	<1	<1		<1	<1

NOTES: NA = Not Applicable
ug/L = micrograms per liter
Blank field indicates result was below detection limit
(1) USEPA's surface water criteria (National Recommended Water Quality Criteria-Correction EPA 822-Z-99-001, April 1999) were the basis for a surface water cleanup goals of 81 ppb for TCE, 525 ppb for vinyl chloride and the MCL of 70 ppb for cis-1,2,-dichloroethene.

TABLE 3
Second Five-Year Review Report Addendum

TABLE 3
Galen-Myers Superfund Site
Osceola, Indiana
Surface Water Sample Results

Date Prepared: 06/12/07

Constituent	Action Level (1)	SW-1S		SW-1D		SW-2S		SW-2D	SW-3	SW-4	SW-5S	
		April 2007 4/30/2007		April 2007 4/30/2007		April 2007 4/30/2007		April 2007 4/30/2007	April 2007 4/30/2007	April 2007 4/30/2007	April 2007 4/30/2007	
Volatile Organic Compounds (ug/L)												
Cis-1,2-Dichloroethene	70	2.6		28		2.2		3.3	<1	<1	2.4	
Trans-1,2-Dichloroethene	100	<1		0.23	J	<1		<1	<1	<1	<1	
Trichloroethene	81	2.1		8.6		0.99	J	1	<1	<1	2.2	
Vinyl chloride	525	0.86	J	10		0.81	J	1.5	<1	<1	0.86	J
1,1,1-Trichloroethane	200	<1		0.37	J	<1		<1	<1	<1	<1	
Methylene Chloride	5	<1		<1		<1		<1	<1	<1	<1	

NOTES: NA = Not Applicable
ug/L = micrograms per liter
(1) USEPA's surface water criteria (National Recommended Water Quality Criteria-Correction EPA 822-Z-99-001, April 1999) were the basis for a surface water cleanup goals of 81 ppb for TCE, 525 ppb for vinyl chloride and the MCL of 70 ppb for cis-1,2,-dichloroethene.
J = Analyte Present

TABLE 4
Second Five-Year Review Report Addendum

TABLE 1

AIR SAMPLE ANALYTICAL RESULTS

Parameter	O01 Outdoor (ppbv)		FF01 First Floor (ppbv)		B01 Basement Rear (ppbv)		SS01 Sub-slab Basement Rear (ppbv)		B02 Basement Center (ppbv)		B02D Duplicate of B02 (ppbv)		SS02 Sub-slab Basement Center (ppbv)		SS02D Duplicate of SS02 (ppbv)	
Vinyl chloride	1.93	U	1.93	U	1.93	U	1.93	U	1.93	U	1.93	U	1.93	U	1.93	U
1,1-DCE	0.595	U	0.0200	UJ, J	0.0200	UJ, J	0.595	U	0.595	U	0.595	U	0.595	U	0.595	U
trans-1,2-DCE	0.617	U	0.617	U	0.617	U	0.617	U	0.617	U	0.617	U	0.617	U	0.617	U
cis-1,2-DCE	0.630	U	0.630	U	0.630	U	0.630	U	0.630	U	0.630	U	0.630	U	0.630	U
TCE	0.020	UJ, J	0.0200	UJ, J	0.0200	UJ, J	0.0600	UJ, J	0.0200	UJ, J	0.0200	UJ, J	0.0400	UJ, J	0.0600	UJ, J
PCE	0.020	UJ, J	0.290	J	0.180	UJ, J	0.220	J	0.200	J	0.220	J	0.390	J	0.500	

Notes:

DCE = Dichloroethene
J = Reported value considered estimated because of uncertainties regarding compound identification
TCE = Trichloroethene
PCE = Tetrachloroethene
ppbv = Part per billion by volume
U = Analyte not detected at or above reporting limit. Reporting limit is shown as reported value
UJ = Analyte not detected at or above estimated reporting limit

Source: *Letter Report, Galen Myers Vapor Intrusion Study, 55163 Birch Road Osceola, St. Joseph County, Indiana*: Tetra Tech EM Inc., August 3, 2006

Insert Second Five-Year Review Report Addendum, Table 4
September 2006 , U.S. EPA Soil Vapor Intrusion Study Analytical Results

July 21, 1997, Consent for Access and Environmental Response:

CONSENT FOR ACCESS TO PROPERTY AND ENVIRONMENTAL RESPONSE

I, **Rob Emmans**, hereby grant permission to the United States Environmental Protection Agency (U.S.EPA), the Indiana Department of Environmental Management (IDEM) and their agents and employees to enter upon and access property owned by me and described as follows: Five acres in Penn Township, St. Joseph County, Section 32, T. 38N., R.4E., at 11303 Edison Road, Osceola, Indiana.

Access is granted to the above-cited agencies to enable them to perform remedial design/remedial action and undertake any and all additional response actions, deemed necessary by either agency and described in work plan developed and approved by IDEM and/or U.S. EPA for the Galen Myers Site. Activities that may take place at this site include:

1) the taking of such soil, water, and air samples as may be determined to be necessary;
2) the sampling of any solids or liquids stored or disposed of on-site;
3) the drilling of holes and installation of monitoring wells for subsurface investigation;
4) other actions related to the investigation of surface or subsurface contamination;
5) the taking of response action including removal, disposal of hazardous waste and any contaminants from the site.
6) the continual monitoring of groundwater through these permanently installed groundwater monitoring wells.

My consent to allow access to the property is not an admission of any liability or responsibility to reimburse IDEM and/or U.S. EPA for costs. However, I acknowledge that I have been informed, by IDEM, of the agencies concerns over developing this property including but not limited to the potential exacerbation of contamination that may arise from the development of the property. Property owner agrees to restrict the use of the property by filing deed restrictions on this property consistent with notice attached to the agreement labeled **"Exhibit 1"**. I acknowledge that neither IDEM nor U.S. EPA has agreed to release me from any liability under any state or federal authority.

IN WITNESS WHEREOF, I Rob Emmans, have executed two (2) copies of the Consent for Access To Property and Environmental Response, each of which shall be deemed an original.

Property Owner:

By: Rob Emmans Date: July 21, 1997

Notary Form Witness:

STATE OF INDIANA)
ST. JOSEPH COUNTY) SS:

Before me, the undersigned Notary Public, in and for said County and State, on July 21, personally appeared Rob Emmans and acknowledged the execution of the above and foregoing cc for access to property and environmental response.

Dated: July 21, 1997

My Commission Expires: 12-22-2000

Donald E. Wertheimer, Notary Public
Resident of St. Joseph County, IN

EXHIBIT 1

The owner must deed restrict the land in the following ways:

- Prevent any on-site groundwater development; wells should not be installed by any owner of the property.

- Restrict any excavation to the top 3-5 feet of soil. Any construction beyond this depth may involve exposure to groundwater and soil gas vapors contaminated with trichloroethylene (TCE), which is a toxic and highly carcinogenic (cancer) chemical. The groundwater at the site has been measured at 8 feet below the ground surface. The depth to groundwater is seasonally variable.

- Ensure that all individuals (employees of the utilities and developer, builder, etc.) must be aware of the site contamination conditions and must be briefed about the health and safety requirements to be followed while performing any type of house related construction work.

- Accept the responsibility of protecting existing on-site and new monitoring wells to be installed during the Remedial Design/Remedial Action phase. The owner must provide free and unrestricted absolute access to the wells to any IDEM/USEPA authorized personnel at any time during RD/RA process.